

EXHIBIT J



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VIA EMAIL (dshah@keker.com)

Deeva V. Shah
Keker, Van Nest & Peters LLP
633 Battery Street
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Re: *Singular Computing LLC v. Google LLC*
Case No.: 1:19-cv-12551-FDS

Counsel:

Below are granular hit counts for Google's email requests, along with numbers for each Intrinsix email custodian and for non-Bates Singular email custodians. These numbers continue to reveal problems with Google's proposed searches. Most tellingly, the terms Google has proposed reach Singular's *entire email population*. That is, Google's current requests operate no differently from a request for every email (plus attachments) that Singular generated over a decade. It is inconceivable any court would find that such an effective blanket request was reasonable or "narrowly tailored to specific issues."

In reviewing Google's proposed terms, it is easy to see why these terms effect a blanket request. For example, Google included the term "Carnegie Mellon," where Dr. Bates not only received his PhD, but where he was a Research Professor for ten years and Adjunct Professor for an additional six. Thus, for every time Dr. Bates mentioned one or more of those details of his CV over email in the last ten years, Singular would have to produce that email and its attachments. Unsurprisingly, the term "Carnegie Mellon" alone results in over 36,000 hits.

As further examples of the inappropriateness Google's search terms, the four-digit string *4760 and three-digit string 286 turn up over 37,000 and 38,000 documents, respectively.

The term agreement* turns up 43,440 documents.

The term Analog* turns up nearly 44,000 documents; like many of Google's search terms, Analog* appears in every issued U.S. patent owned by Singular, all but three of which were not asserted in this case. Similarly, the terms exponent* and NAN* (both appearing in the common specification of asserted and non-asserted Singular patents alike) turn up over 41,000 and over 45,000 documents, respectively.



The above examples are just a handful from a long list of similar instances, the sum total of which is clear bad faith in this process. Indeed, when Singular provided aggregated hit counts for Google's over 200 separate terms, Singular noted the results were high because Google had sought production of emails containing so many indiscriminate terms, including the term patent*. In that particular case, Google's responded that the term patent* was "narrowly tailored" to the facts of this case because this case is a patent case. If this argument does not neatly encapsulate the parties' clear difference of opinion as to what "narrowly tailored to specific issues" means in this context, we are unsure what could.

Google further claimed that the term patent* was appropriate because Singular had not shown that it owned more patents than the three currently asserted. We are unaware of any shifting burden rule in this (or any) Court whereby Singular must show it owns more than the asserted patent(s) to avoid producing ESI according to such an indiscriminate term. More importantly, does Google actually not know that Singular owns several patents, including foreign properties, that have not been asserted here?

Regardless, the indiscriminate term patent* should immediately be removed from Google's terms, along with the names of Singular's prosecuting attorney (Plotkin) and that of his firm (Blueshift).

Further, unless Google is willing to significantly narrow the following terms to specific issues in this case, using narrowing language and logic operations, these should also be removed from Google's proposal. If Google is unwilling to so narrow or remove any of these terms from its proposal, please let us know your availability for a meet and confer on this issue, and please be prepared to discuss each term and to explain why the term is narrowly tailored to a specific issue in the case, including identifying the specific issue(s) to which the term is narrowly tailored.

Singular Terms

"Carnegie Mellon"	Analog*	Carnegie Mellon
"CRA"	APE	CAVE
(dep* W/2 defense)	Apple*	CMU*
(dep* W/2 energy)	approx* W/10 precis*	Cohen
(evaluat* W/5 tech*)	approx* W/3 comput*	collaborat*
4760	approx W/3 process*	Colwell
6164	army	conver W/10 *bit
C32	Arnold	conver* W/10 bit*
Deterministic	ASIC	conver* W/10 log*
"Charles River"	Astro	CRA
"IEEE 754"	BAE	Cray
"input signal*"	baesystems	CSAIL
"processing element*"	Baluja	DARPA
286	Beal	Dean
agreement*	BF*	DOD*
AMS	Blueshift*	DOE*
	Boyd	DSP*
	Cadence*	emulator*



exponent*	MIT*	SIGINT
float* W/5 core	MOSIS	spectral
Float* W/5 library	Murphy	Stecyk
float* W/5 operat*	Nan*	Struever
FPGA*	Naval	Swetha
Fujitsu*	Navy	SYNAPSE
GlobalFoundries	Nelson	systolic*
Google*	Ng	table* W/10 bit*
GPU*	NSA	table* W/10 log*
Hammerstrom	NVESD	Takeshi
Hashimoto	NVidia	Tenenbaum
Hussein	ONR	Tensor*
Intrinsix	OpenEXR	TPU*
Ito	OpenGL	trunc* W/10 input*
Kanade	Pal	USC
Kent	patent*	Varadarajan
kjarnold	PE	Vertex*
Kuhn	Plotkin	VLSI
Kung	Rose	Willoughby
Leo	round! W/10 input*	Xilinx
Licens*	round* W/10 input*	Z1
Liu	Roy	Zhang
MAD-HATTER	S1	Zuse
mantissa*	S-1	
Media Lab	Sandia	

Intrinsix Terms

APE
 approx* W/3 comput*
 Bates
 Cadence*
 DARPA
 DOE*
 emulator*
 Intrinsix (previously removed by Google per agreement)
 Singular

Additionally, please note that by omitting any particular Google search term(s) from the above lists, Singular has not acceded to the reasonability of that term. Nor does Singular thereby agree that any such term is “narrowly tailored to a specific issue” in this case. Rather, in the sole interest of avoiding wasteful disputes, and to minimize any need for court intervention, Singular is amenable to producing in response to those non-listed terms, provided that Google understands this will necessarily impact Singular’s production in response to any remaining terms. This is an obvious consequence of Google’s including over 200 different search terms in its request.

Finally, please note that the following counts, as indicated below, included emails plus family members (i.e., attachments), which is appropriate considering that Singular will



have to review both the subject emails as well as their attachments, including for privilege, as applicable.

Best regards,

/s/ Michael J. Ercolini

Michael J. Ercolini



Singular Hit Counts <i>Bates, Joseph</i>	
Term	Hits
"Carnegie Mellon"	36,018
"CRA "	6,017
"nuclear security"	40
(andrew /3 Ng)	0
(andrew W/3 Ng)	525
(Annapolis Micro*)	31
(dep* /2 defense)	0
(dep* /2 energy)	0
(dep* W/2 defense)	1,131
(dep* W/2 energy)	1,488
(evaluat* /5 tech*)	0
(evaluat* W/5 tech*)	1,568
(Half W/3 float*)	94
(Texas Instrument*)	473
*4760	36,759
*6164	16,464
C32	37,158
*Deterministic	35,221
*T3D	975
“airborne sensor”	88
“Charles River”	4,684
“energy efficient signal classifier”	11
“IEEE 754”	15,560
“input signal*”	32,329
“night vision”	792



“processing element*”	8,261
“warfare pacific”	0
286	38,567
4493048	0
5442577	0
5666071	0
5689677	0
5892962	86
6311282	0
6600222	0
agreement*	43,440
AMS	31,619
Analog*	43,903
APE	38,382
Apple*	44,502
approx* W/10 imprecis*	69
approx* W/10 precis*	18,137
approx* W/3 comput*	42,600
approx* W/3 process*	4,715
army	32,966
Arnold	33,205
Asanovic	24
Ashour	0
ASIC*	11,085
Astro	30,918
Athanas	22
Aty	174
Azizi	6
BAE	5,724
baesystems	1,483



Baker	451
Baluja	1,029
Barszcz	0
Beal	6,891
Bedichek	415
Belanovic	72
BF*	39,522
bfloat*	991
Blueshift*	2,459
Boden	62
Boyd	1,629
Cadence*	4,543
Carnegie Mellon	36,018
CAVE	2,169
CF90TM	0
Cloutier	102
CMU*	37,512
CNAPS	11
Cohen	30,812
collaborat*	42,504
Colwell	1,144
conver* W/10 *bit	35,776
conver* W/10 bit*	35,857
conver* W/10 LNS	52
conver* W/10 log*	32,030
CRA	6,017
Cray	36,167
CSAIL	33,465
DARPA	45,953
Dean	1,273



dfaust	36
Dockser	0
DOD*	34,693
DOE*	67,858
DS112	0
DSP*	37,792
Ebisuzaki	42
emulator*	9,860
exponent*	41,328
Faust	36
Felton	14
float* /5 core	0
float* /5 operat*	0
float* W/5 core	1,550
Float* W/5 library	35,234
float* W/5 operat*	37,653
Flynn	149
FP W/5 library	24
FPGA*	12,782
Frantz	26
Fujitsu*	5,229
Fukushige	0
Gaffar	0
GlobalFoundries	1,784
Google*	40,073
GPU*	48,188
GRAPE*	273
Hammerstrom	2,620
Hashimoto	30,222
Hawkins	84



Hennessy	208
Hoefflinger	0
Horie	331
humikhin	0
Hussein	30,260
i486	0
i860	21
Ienne	33
Intrinsix	18,551
Ito	15,286
Jouppi	107
Kamakoti	0
Kanade	2,173
Kent	3,349
Kinser	0
kjarnold	2,345
Kjosavik	0
Kuhn	30,258
Kung	1,558
Leeser	81
Leinhart	0
Leiserson	578
Leo	38,371
Levarado	0
Licens*	48,756
Lindblad	0
Liu	38,667
LogiCore	54
Lopez	72
MacMillan	613



MAD-HATTER	1,361
Makino	53
mantissa*	38,287
McCartor	0
Media Lab	3,993
Mikanik	10
MIT*	56,670
Miyakawa	2
Moller	7
Mones	0
MOSIS	3,082
Murphy	1,280
Nagle	35
Nan*	45,059
Naval	32,396
Navy	35,644
Nelson	31,777
Ng	33,120
NIWCP	0
NSA	531
NVESD	685
NVidia	40,536
Obi	131
Okumura	3
ONR	4,579
OpenEXR	449
OpenGL	785
Pal	30,528
Paschke	0
patent*	45,609



Patterson	424
PE	38,824
Perlmutter	17
Piponi	40
Plotkin	6,814
Prasanna	53
Qinetiq	32
Quoc	378
Raab	2
Ramacher	68
Rojas	8
Rose	35,737
round! W/10 input*	30,610
round* W/10 input*	35,454
Roy	32,244
Rutenbar	28
S1	47,007
S-1	39,862
Sahin	25
Sandia	18,838
Selzer	0
Shirazi	225
SIGINT	30,287
Simar	0
Spalink	77
spectral	31,126
SPERT*	3
Splash	56
SPRITE	48
Stecyk	7,318



Strey	0
Struever	1,577
Sudha	8
Sugimoto	13
Swetha	2,369
SYNAPSE	30,386
systolic*	447
table* W/10 *bit	521
table* W/10 bit*	3,339
table* W/10 LNS	225
table* W/10 log*	32,781
Takeshi	1,085
Teller	557
Tenenbaum	1,080
Tensor*	32,491
Thrun	130
Tomida	0
Tong	137
Tornabene	73
TPU*	16,112
trunc! W/10 input*	0
trunc* W/10 input*	30,310
USC	984
VanDrunen	0
Varadarajan	32,124
Vertex*	3,243
Viredaz	0
Virtex*	124
VLSI	2,364
Vollmer	0



WAAS	141
Walters	59
Warkowski	0
Wawrzynek	3
Wildforce	0
Wildstar	23
Willoughby	30,220
Xilinx	4,791
Yongsoon	0
Youngs	5
Z1	31,476
Z3 OR	0
Zhang	32,978
Zuse	1,334

Intrinsix Hit Counts (Total)	
Term	Hits
"CRA"	48
"nuclear security"	0
(dep* /2 defense)	0
(dep* /2 energy)	0
(dep* W/2 defense)	31
(dep* W/2 energy)	4
(Half W/3 float*)	0
*Deterministic	195
“airborne sensor”	0
“Charles River”	52
“energy efficient signal classifier”	0



“input signal*”	19
“night vision”	99
“processing element*”	80
“warfare pacific”	0
Analog*	153
APE	585
Apple*	22
approx* W/10 imprecis*	0
approx* W/10 precis*	25
approx* W/3 comput*	484
approx* W/3 process*	73
army	101
BAE	310
baesystems	5
Bates	5,535
Bedichek	0
BF*	35
bfloat*	0
Blueshift*	0
Boyd	2
Cadence*	846
Carnegie Mellon	139
CAVE	7
CMU*	228
Colwell	4
conver* W/10 *bit	9
conver* W/10 bit*	23
conver* W/10 LNS	0
conver* W/10 log*	6
CRA	48



CSAIL	22
DARPA	2,530
dfaust	12
DOD*	225
DOE*	1,413
emulator*	479
exponent*	32
Faust	20
Float* W/5 library	0
Foley	3
FP W/5 library	0
Fujitsu*	53
GlobalFoundries	123
Google*	62
Hammerstrom	316
Horie	0
Intrinsix	5,666
Kanade	101
Leo	11
Liu	21
MAD-HATTER	0
mantissa*	5
Media Lab	18
MIT*	133
MOSIS	432
Mustafa	109
Naval	153
Navy	359
NIWCP	0
NSA	10



NVESD	97
NVidia	19
ONR	235
Ozgen	93
Plotkin	0
Rawn	3
round! W/10 input*	0
round* W/10 input*	0
Roy	2
S1	380
S-1	26
Sandia	52
Senanayake	5
Shumikhin	0
SIGINT	4
Singular	2,692
spectral	11
SPRITE	0
Struever	0
Swetha	20
systolic*	0
table* W/10 *bit	25
table* W/10 bit*	46
table* W/10 LNS	0
table* W/10 log*	30
Takeshi	0
Tenenbaum	2
Tensor*	2
TPU*	0
trunc! W/10 input*	0



trunc* W/10 input*	0
USC	45
Varadarajan	20
WAAS	0

Intrinsic Search Term Hits (Per Custodian) <i>Arnold, Kent</i>	
Term	Hits
"CRA"	0
"nuclear security"	0
(dep* /2 defense)	0
(dep* /2 energy)	0
(dep* W/2 defense)	0
(dep* W/2 energy)	0
(Half W/3 float*)	0
*Deterministic	0
"airborne sensor"	0
"Charles River"	0
"energy efficient signal classifier"	0
"input signal*"	4
"night vision"	0
"processing element*"	6
"warfare pacific"	0
Analog*	3
APE	158
Apple*	0
approx* W/10 imprecis*	0
approx* W/10 precis*	4



approx* W/3 comput*	6
approx* W/3 process*	6
army	0
BAE	2
baesystems	0
Bates	1,273
Bedichek	0
BF*	2
bfloat*	0
Blueshift*	0
Boyd	0
Cadence*	354
Carnegie Mellon	0
CAVE	0
CMU*	5
Colwell	0
conver* W/10 *bit	0
conver* W/10 bit*	0
conver* W/10 LNS	0
conver* W/10 log*	0
CRA	0
CSAIL	0
DARPA	301
dfaust	9
DOD*	0
DOE*	224
emulator*	96
exponent*	6
Faust	9
Float* W/5 library	0



Foley	0
FP W/5 library	0
Fujitsu*	0
GlobalFoundries	8
Google*	4
Hammerstrom	0
Horie	0
Intrinsix	1,339
Kanade	0
Leo	0
Liu	0
MAD-HATTER	0
mantissa*	4
Media Lab	0
MIT*	1
MOSIS	12
Mustafa	0
Naval	0
Navy	0
NIWCP	0
NSA	0
NVESD	0
NVidia	0
ONR	0
Ozgen	0
Plotkin	0
Rawn	0
round! W/10 input*	0
round* W/10 input*	0
Roy	0



S1	33
S-1	2
Sandia	0
Senanayake	0
Shumikhin	0
SIGINT	0
Singular	389
spectral	0
SPRITE	0
Struever	0
Swetha	0
systolic*	0
table* W/10 *bit	5
table* W/10 bit*	8
table* W/10 LNS	0
table* W/10 log*	4
Takeshi	0
Tenenbaum	0
Tensor*	0
TPU*	0
trunc! W/10 input*	0
trunc* W/10 input*	0
USC	0
Varadarajan	0
WAAS	0



Intrinsic Search Term Hits (Per Custodian) <i>Beal, Mark</i>	
Term	Hits
"CRA"	29
"nuclear security"	0
(dep* /2 defense)	0
(dep* /2 energy)	0
(dep* W/2 defense)	6
(dep* W/2 energy)	4
(Half W/3 float*)	0
*Deterministic	65
"airborne sensor"	0
"Charles River"	37
"energy efficient signal classifier"	0
"input signal*"	4
"night vision"	19
"processing element*"	45
"warfare pacific"	0
Analog*	92
APE	256
Apple*	14
approx* W/10 imprecis*	0
approx* W/10 precis*	13
approx* W/3 comput*	179
approx* W/3 process*	37
army	25
BAE	111
baesystems	5
Bates	2,253



Bedichek	0
BF*	19
bfloat*	0
Blueshift*	0
Boyd	2
Cadence*	590
Carnegie Mellon	56
CAVE	7
CMU*	85
Colwell	4
conver* W/10 *bit	2
conver* W/10 bit*	4
conver* W/10 LNS	0
conver* W/10 log*	2
CRA	29
CSAIL	11
DARPA	1,252
dfaust	10
DOD*	77
DOE*	625
emulator*	130
exponent*	9
Faust	13
Float* W/5 library	0
Foley	0
FP W/5 library	0
Fujitsu*	47
GlobalFoundries	89
Google*	33
Hammerstrom	138



Horie	0
Intrinsix	2,325
Kanade	43
Leo	9
Liu	12
MAD-HATTER	0
mantissa*	0
Media Lab	16
MIT*	75
MOSIS	202
Mustafa	107
Naval	44
Navy	123
NIWCP	0
NSA	9
NVESD	16
NVidia	15
ONR	88
Ozgen	93
Plotkin	0
Rawn	3
round! W/10 input*	0
round* W/10 input*	0
Roy	2
S1	137
S-1	2
Sandia	18
Senanayake	1
Shumikhin	0
SIGINT	4



Singular	1,300
spectral	4
SPRITE	0
Struever	0
Swetha	2
systolic*	0
table* W/10 *bit	10
table* W/10 bit*	21
table* W/10 LNS	0
table* W/10 log*	13
Takeshi	0
Tenenbaum	2
Tensor*	2
TPU*	0
trunc! W/10 input*	0
trunc* W/10 input*	0
USC	20
Varadarajan	2
WAAS	0

Intrinsic Search Term Hits (Per Custodian) <i>Stecyk, Steve</i>	
Term	Hits
"CRA"	40
"nuclear security"	0
(dep* /2 defense)	0
(dep* /2 energy)	0
(dep* W/2 defense)	26
(dep* W/2 energy)	4



(Half W/3 float*)	0
*Deterministic	153
“airborne sensor”	0
“Charles River”	44
“energy efficient signal classifier”	0
“input signal*”	10
“night vision”	89
“processing element*”	61
“warfare pacific”	0
Analog*	90
APE	341
Apple*	14
approx* W/10 imprecis*	0
approx* W/10 precis*	19
approx* W/3 comput*	379
approx* W/3 process*	56
army	69
BAE	263
baesystems	3
Bates	3,280
Bedichek	0
BF*	28
bfloat*	0
Blueshift*	0
Boyd	0
Cadence*	694
Carnegie Mellon	107
CAVE	7
CMU*	184



Colwell	3
conver* W/10 *bit	0
conver* W/10 bit*	14
conver* W/10 LNS	0
conver* W/10 log*	6
CRA	40
CSAIL	16
DARPA	2,307
dfaust	9
DOD*	177
DOE*	880
emulator*	308
exponent*	18
Faust	17
Float* W/5 library	0
Foley	0
FP W/5 library	0
Fujitsu*	29
GlobalFoundries	79
Google*	39
Hammerstrom	253
Horie	0
Intrinsix	3,372
Kanade	70
Leo	5
Liu	5
MAD-HATTER	0
mantissa*	5
Media Lab	9
MIT*	62



MOSIS	404
Mustafa	2
Naval	123
Navy	285
NIWCP	0
NSA	9
NVESD	89
NVidia	4
ONR	194
Ozgen	0
Plotkin	0
Rawn	0
round! W/10 input*	0
round* W/10 input*	0
Roy	0
S1	296
S-1	10
Sandia	29
Senanayake	1
Shumikhin	0
SIGINT	4
Singular	2,324
spectral	4
SPRITE	0
Struever	0
Swetha	0
systolic*	0
table* W/10 *bit	19
table* W/10 bit*	36
table* W/10 LNS	0



table* W/10 log*	24
Takeshi	0
Tenenbaum	0
Tensor*	0
TPU*	0
trunc! W/10 input*	0
trunc* W/10 input*	0
USC	39
Varadarajan	0
WAAS	0

Unique Singular Non-Bates Email Custodian Search Term Hits

adwords@singularcomputing.com	6
bob@singularcomputing.com	1
contact@singularcomputing.com	19
info@singularcomputing.com	5
jb2@singularcomputing.com	2
jcogito@singularcomputing.com	2
jhayes@singularcomputing.com	13
kevin@singularcomputing.com	89
macservers@singularcomputing.com	8
mustafa@singularcomputing.com	72
ryan@singularcomputing.com	14
sales@singularcomputing.com	4